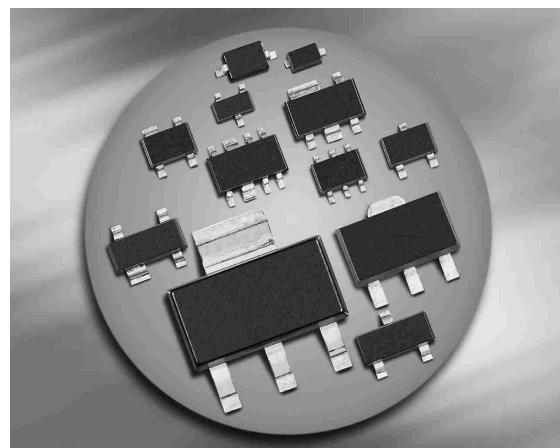


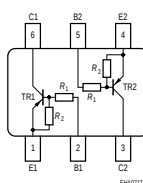
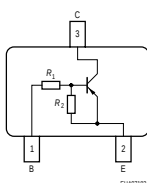
PNP Silicon Digital Transistor

- Switching circuit, inverter, interface circuit, driver circuit
- Built in bias resistor ($R_1 = 47\text{ k}\Omega$, $R_2 = 47\text{ k}\Omega$)
- BCR198S: Two internally isolated transistors with good matching in one multichip package
- BCR198S: For orientation in reel see package information below
- Pb-free (RoHS compliant) package ¹⁾
- Qualified according AEC Q101



BCR198/F BCR198W

BCR198S



Type	Marking	Pin Configuration						Package
BCR198	WRs	1=B	2=E	3=C	-	-	-	SOT23
BCR198F	WRs	1=B	2=E	3=C	-	-	-	TSFP-3
BCR198S	WRs	1=E1	2=B1	3=C2	4=E2	5=B2	6=C1	SOT363
BCR198W	WRs	1=B	2=E	3=C	-	-	-	SOT323

¹Pb-containing package may be available upon special request

Maximum Ratings

Parameter	Symbol	Value	Unit
Collector-emitter voltage	V_{CEO}	50	V
Collector-base voltage	V_{CBO}	50	
Input forward voltage	$V_{i(fwd)}$	80	
Input reverse voltage	$V_{i(rev)}$	10	
Collector current	I_C	100	mA
Total power dissipation- BCR198, $T_S \leq 102^\circ\text{C}$ BCR198F, $T_S \leq 128^\circ\text{C}$ BCR198S, $T_S \leq 115^\circ\text{C}$ BCR198W, $T_S \leq 124^\circ\text{C}$	P_{tot}	200 250 250 250	mW
Junction temperature	T_j	150	
Storage temperature	T_{stg}	-65 ... 150	

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point ¹⁾	R_{thJS}		K/W
BCR198		≤ 240	
BCR198F		≤ 90	
BCR198S		≤ 140	
BCR198W		≤ 105	

¹⁾For calculation of R_{thJA} please refer to Application Note Thermal Resistance

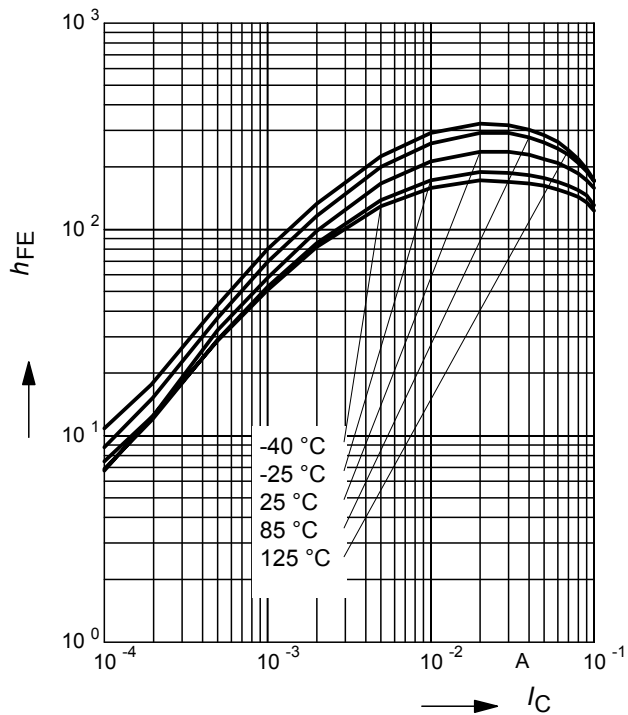
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Collector-emitter breakdown voltage $I_C = 100\ \mu\text{A}$, $I_B = 0$	$V_{(\text{BR})\text{CEO}}$	50	-	-	V
Collector-base breakdown voltage $I_C = 10\ \mu\text{A}$, $I_E = 0$	$V_{(\text{BR})\text{CBO}}$	50	-	-	
Collector-base cutoff current $V_{\text{CB}} = 40\ \text{V}$, $I_E = 0$	I_{CBO}	-	-	100	nA
Emitter-base cutoff current $V_{\text{EB}} = 10\ \text{V}$, $I_C = 0$	I_{EBO}	-	-	164	μA
DC current gain ¹⁾ $I_C = 5\ \text{mA}$, $V_{\text{CE}} = 5\ \text{V}$	h_{FE}	70	-	-	-
Collector-emitter saturation voltage ¹⁾ $I_C = 10\ \text{mA}$, $I_B = 0.5\ \text{mA}$	V_{CEsat}	-	-	0.3	V
Input off voltage $I_C = 100\ \mu\text{A}$, $V_{\text{CE}} = 5\ \text{V}$	$V_{\text{i(off)}}$	0.8	-	1.5	
Input on voltage $I_C = 2\ \text{mA}$, $V_{\text{CE}} = 0.3\ \text{V}$	$V_{\text{i(on)}}$	1	-	3	
Input resistor	R_1	32	47	62	k Ω
Resistor ratio	R_1/R_2	0.9	1	1.1	-
AC Characteristics					
Transition frequency $I_C = 10\ \text{mA}$, $V_{\text{CE}} = 5\ \text{V}$, $f = 100\ \text{MHz}$	f_{T}	-	190	-	MHz
Collector-base capacitance $V_{\text{CB}} = 10\ \text{V}$, $f = 1\ \text{MHz}$	C_{cb}	-	3	-	pF

¹⁾Pulse test: $t < 300\ \mu\text{s}$; $D < 2\%$

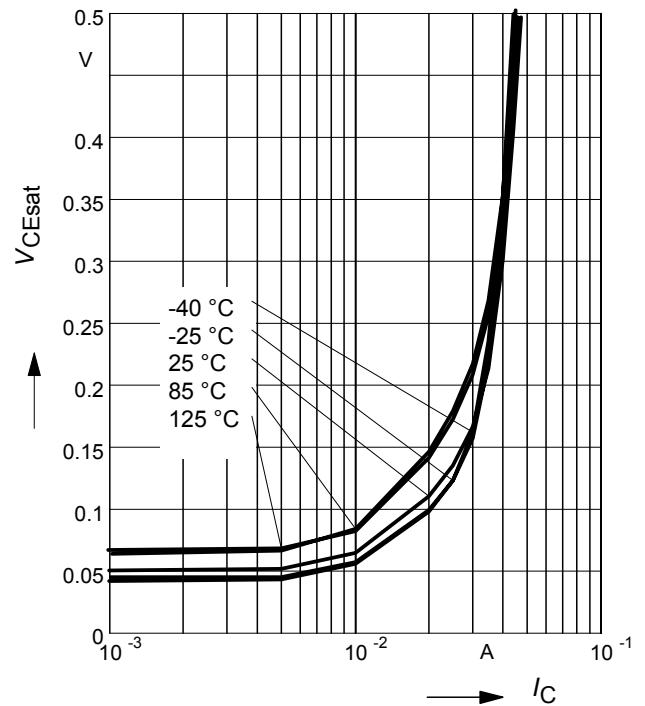
DC current gain $h_{FE} = f(I_C)$

$V_{CE} = 5 \text{ V}$ (common emitter configuration)



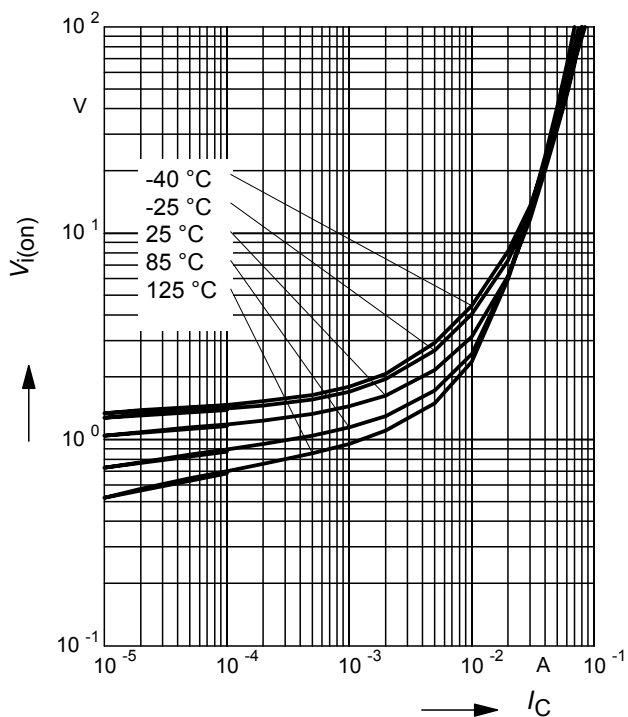
Collector-emitter saturation voltage

$V_{CEsat} = f(I_C), h_{FE} = 20$



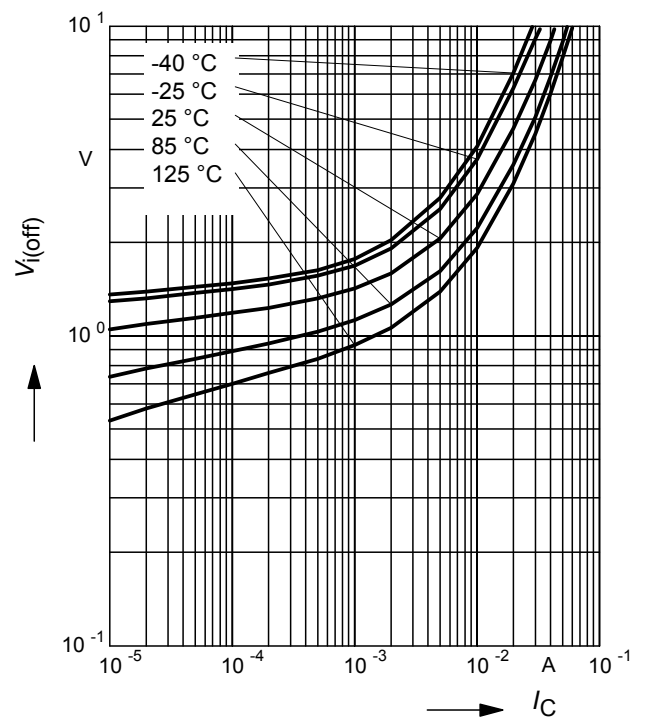
Input on Voltage $V_{i(on)} = f(I_C)$

$V_{CE} = 0.3 \text{ V}$ (common emitter configuration)



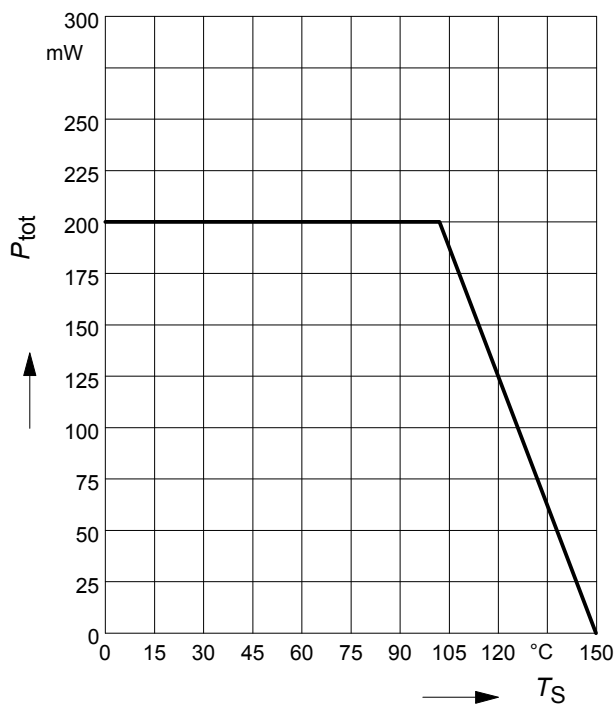
Input off voltage $V_{i(off)} = f(I_C)$

$V_{CE} = 5 \text{ V}$ (common emitter configuration)



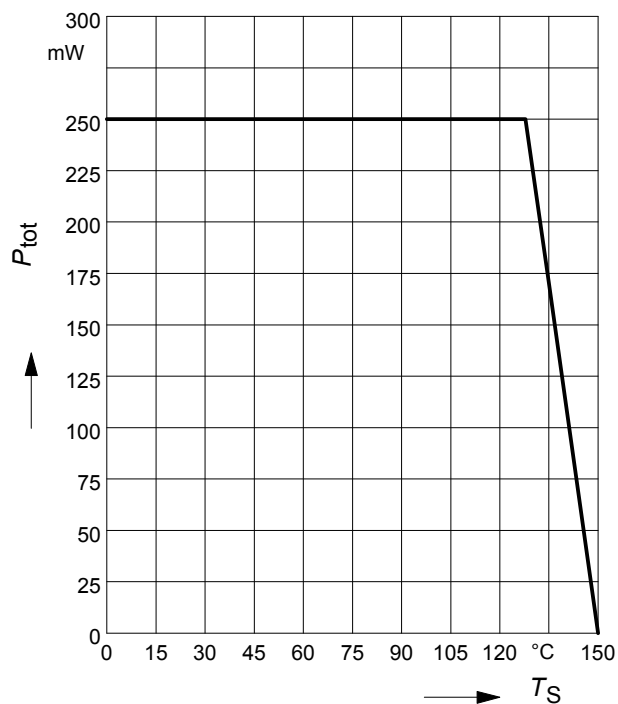
Total power dissipation $P_{\text{tot}} = f(T_S)$

BCR198



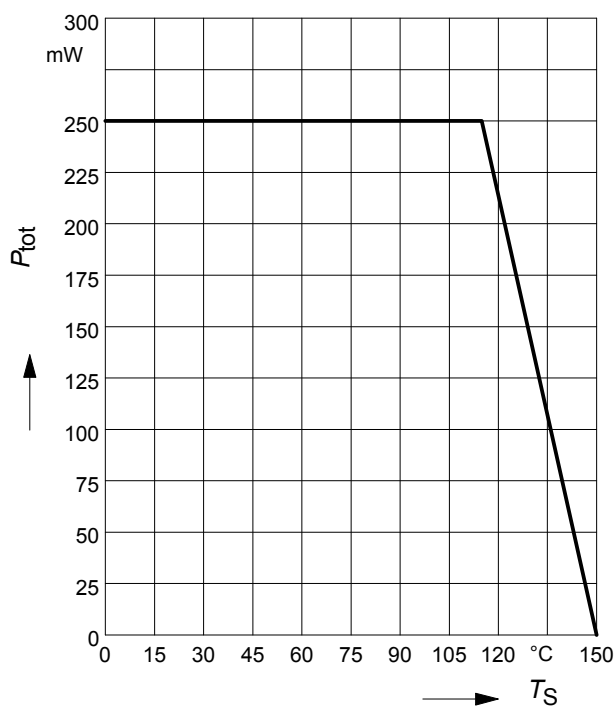
Total power dissipation $P_{\text{tot}} = f(T_S)$

BCR198F



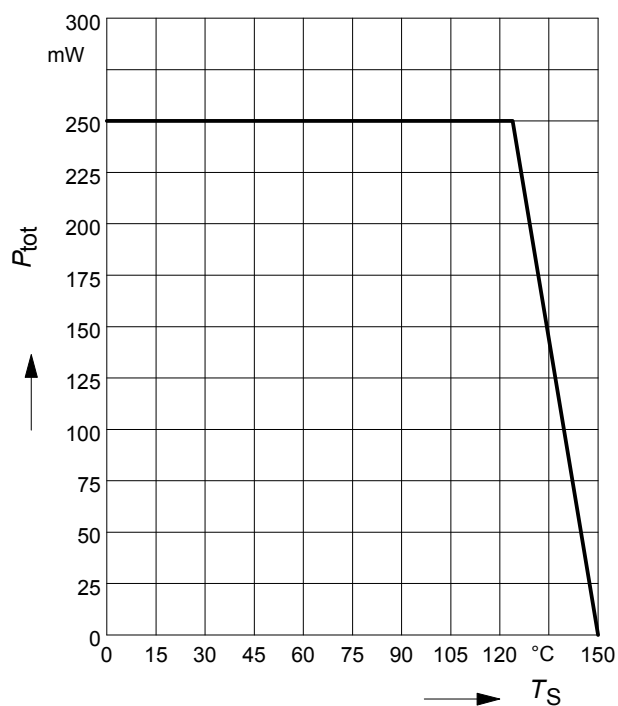
Total power dissipation $P_{\text{tot}} = f(T_S)$

BCR198S



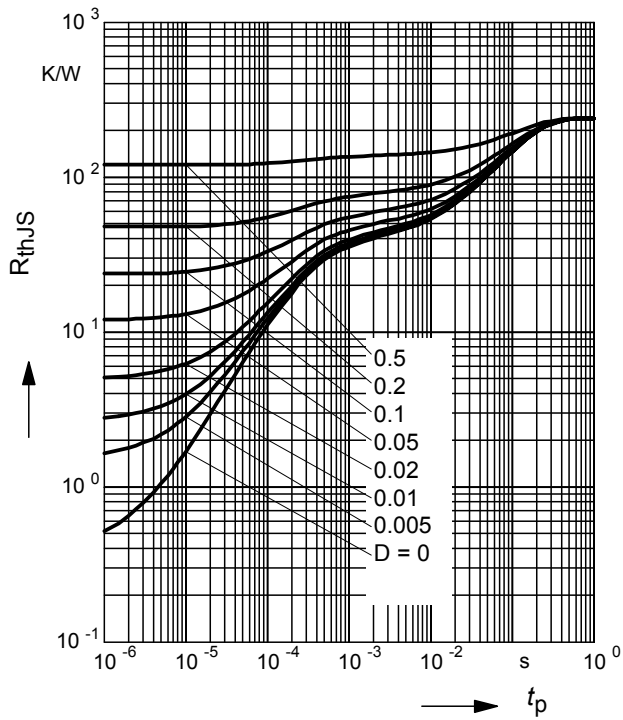
Total power dissipation $P_{\text{tot}} = f(T_S)$

BCR198W



Permissible Pulse Load $R_{thJS} = f(t_p)$

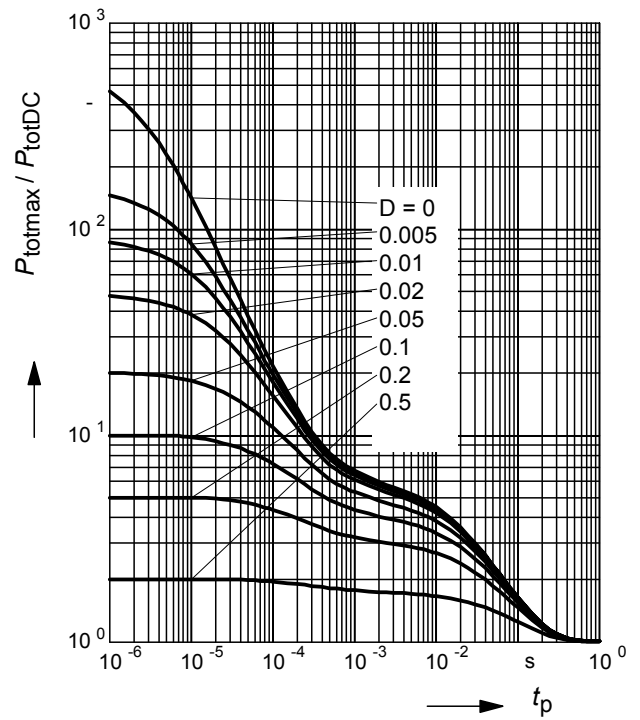
BCR198



Permissible Pulse Load

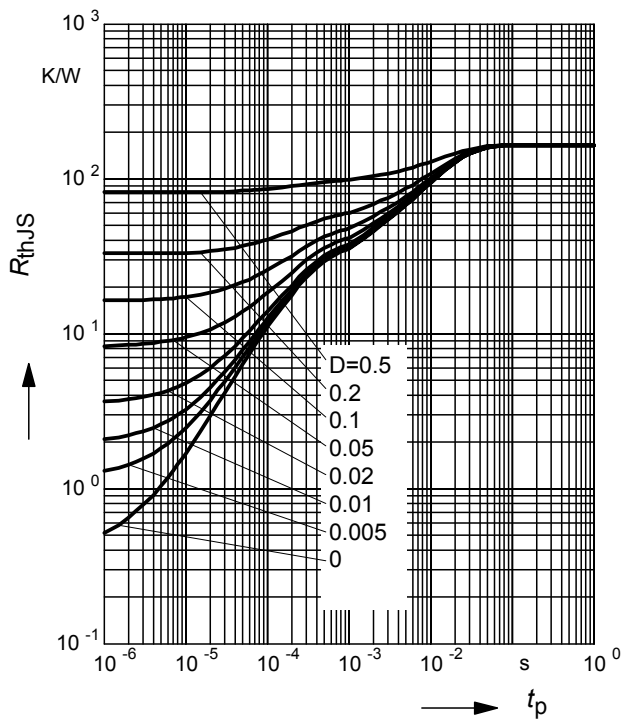
$$P_{totmax}/P_{totDC} = f(t_p)$$

BCR198



Permissible Puls Load $R_{thJS} = f(t_p)$

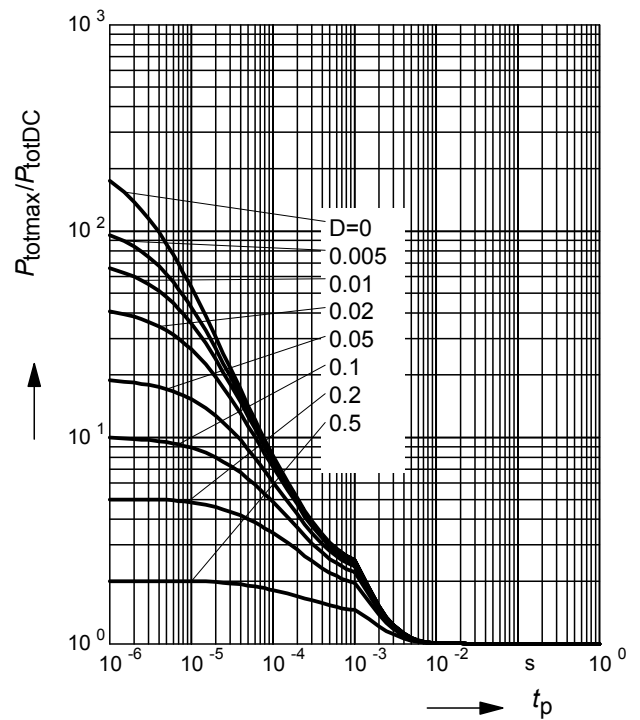
BCR198F



Permissible Pulse Load

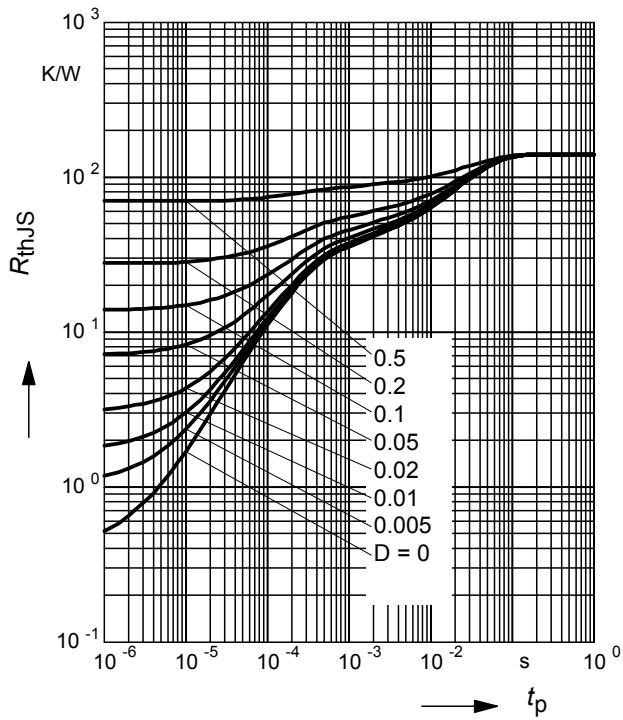
$$P_{totmax}/P_{totDC} = f(t_p)$$

BCR198F



Permissible Puls Load $R_{thJS} = f(t_p)$

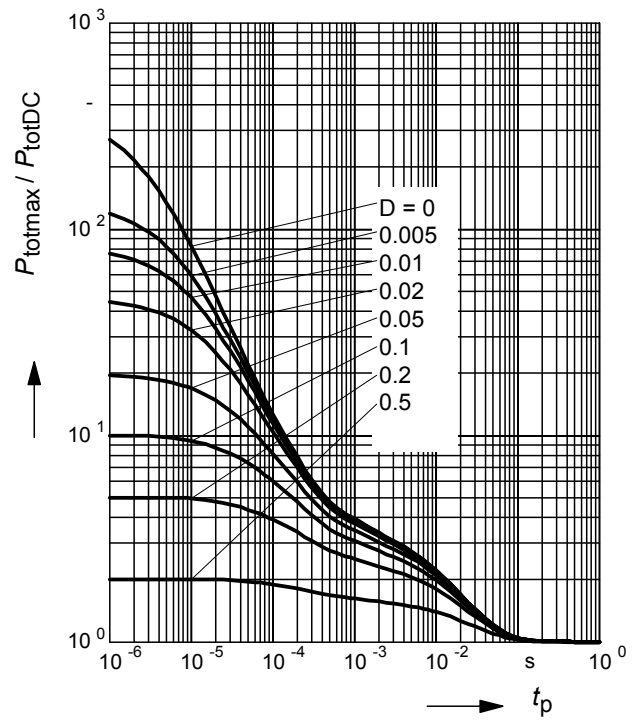
BCR198S



Permissible Pulse Load

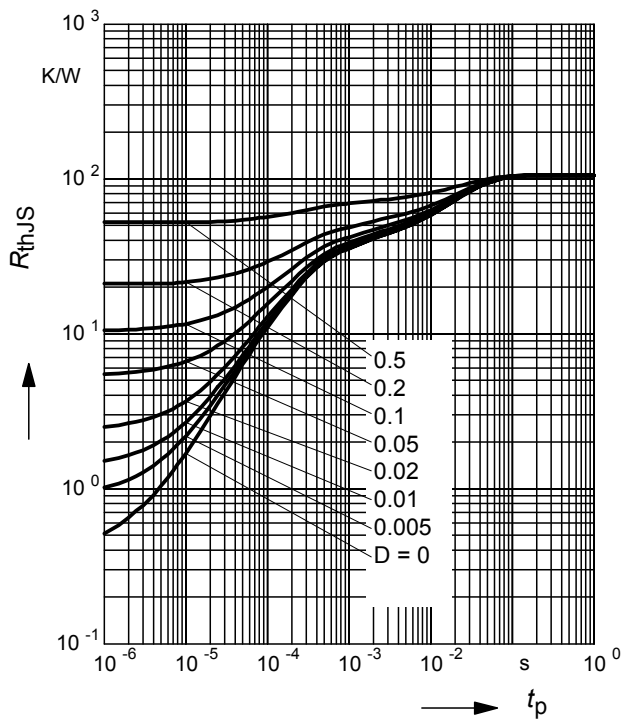
$$P_{totmax}/P_{totDC} = f(t_p)$$

BCR198S



Permissible Puls Load $R_{thJS} = f(t_p)$

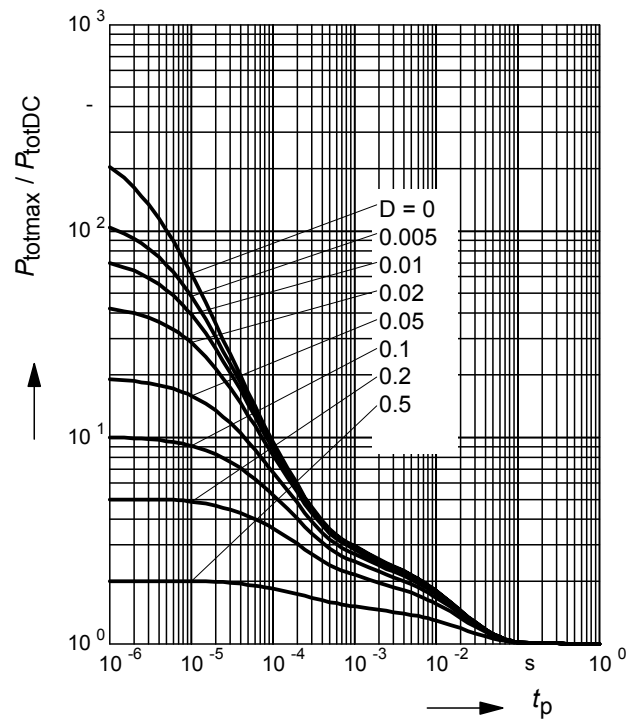
BCR198W



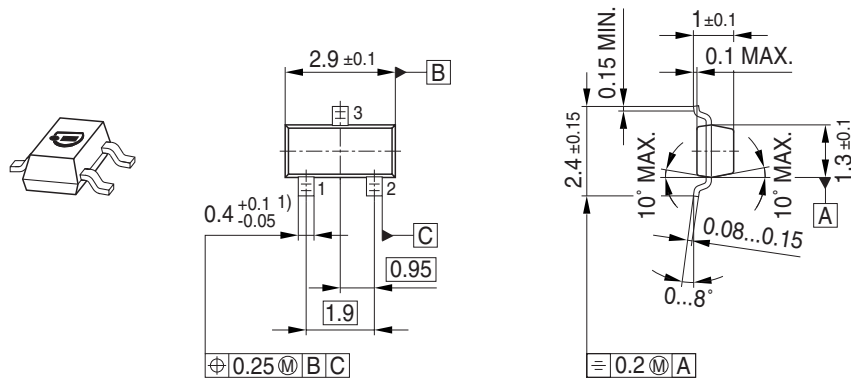
Permissible Pulse Load

$$P_{totmax}/P_{totDC} = f(t_p)$$

BCR198W

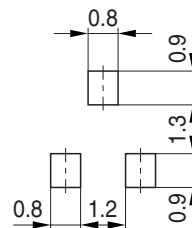


Package Outline

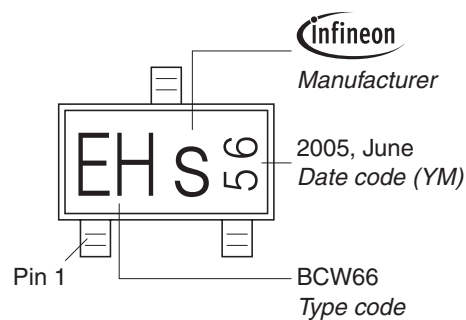


1) Lead width can be 0.6 max. in dambar area

Foot Print

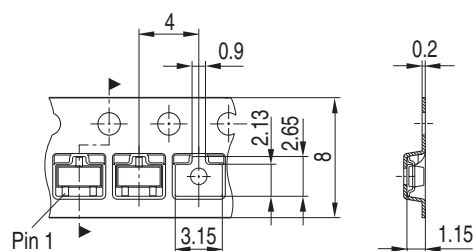


Marking Layout (Example)

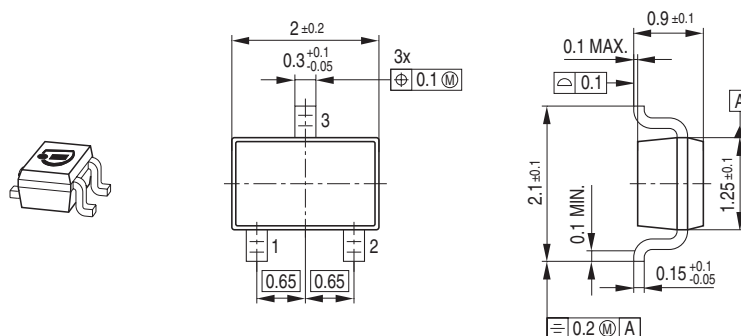


Standard Packing

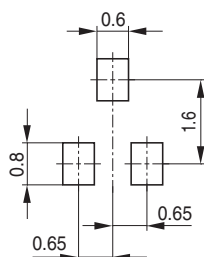
Reel ø180 mm = 3.000 Pieces/Reel
Reel ø330 mm = 10.000 Pieces/Reel



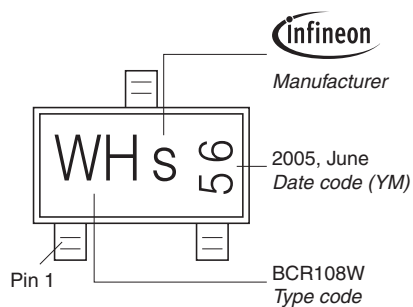
Package Outline



Foot Print

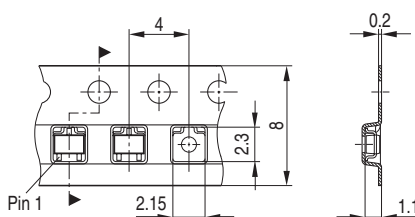


Marking Layout (Example)

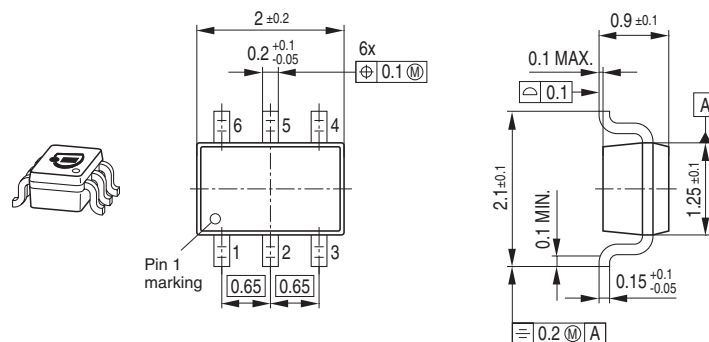


Standard Packing

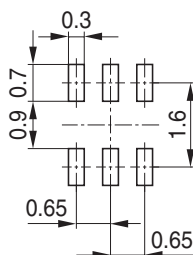
Reel $\phi 180$ mm = 3.000 Pieces/Reel
 Reel $\phi 330$ mm = 10.000 Pieces/Reel



Package Outline

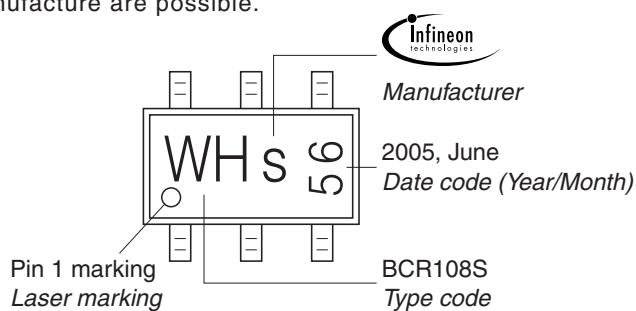


Foot Print



Marking Layout (Example)

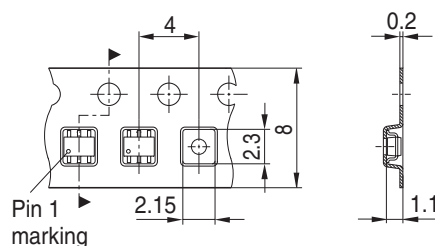
Small variations in positioning of Date code, Type code and Manufacture are possible.



Standard Packing

Reel $\varnothing 180$ mm = 3.000 Pieces/Reel
Reel $\varnothing 330$ mm = 10.000 Pieces/Reel

For symmetric types no defined Pin 1 orientation in reel.



The technical drawing shows two views of the M8x10mm connector:

- Front View (Left):** Shows the top profile of the connector. Dimensions include a total width of 1.2 ± 0.05 , a central slot width of 0.2 ± 0.05 , and a mounting hole diameter of $\varnothing 3$. The bottom features three pins labeled 1, 2, and 3.
- Side View (Right):** Shows the side profile of the connector. Dimensions include a total height of 1.2 ± 0.05 , a base thickness of 0.2 ± 0.05 , a top flange width of 0.55 ± 0.04 , a pin offset of 0.15 ± 0.05 , and a maximum taper angle of 10° MAX. . A reference dimension of 0.8 ± 0.05 is also shown.

Figure 1 illustrates the marking of the BCR847BF component. The component is a rectangular package with three pins. The top pin is labeled 'Manufacturer' and points to the Infineon logo. The bottom-left pin is labeled 'Pin 1'. The bottom-right pin is labeled 'Type code' and points to the text 'BCR847BF'. The center of the component is labeled '1F S'.

Technical drawing of a mechanical part with dimensions. The drawing shows a side view and a cross-section. Dimensions include: 4 (width), 0.3 (thickness), 1.2 (height), 1.5 (height), 8 (total height), 1.35 (width), 0.2 (width), and 0.7 (height). A pin is labeled 'Pin 1'.

Edition 2006-02-01

Published by

Infineon Technologies AG

81726 München, Germany

© Infineon Technologies AG 2007.

All Rights Reserved.

Attention please!

The information given in this dokument shall in no event be regarded as a guarantee of conditions or characteristics ("Beschaffenheitsgarantie"). With respect to any examples or hints given herein, any typical values stated herein and/or any information regarding the application of the device, Infineon Technologies hereby disclaims any and all warranties and liabilities of any kind, including without limitation warranties of non-infringement of intellectual property rights of any third party.

Information

For further information on technology, delivery terms and conditions and prices please contact your nearest Infineon Technologies Office (www.infineon.com).

Warnings

Due to technical requirements components may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies Office.

Infineon Technologies Components may only be used in life-support devices or systems with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system, or to affect the safety or effectiveness of that device or system.

Life support devices or systems are intended to be implanted in the human body, or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.

Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru

moschip.ru_4

moschip.ru_6

moschip.ru_9